IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Original): A method for detecting a defect in a material web having a first surface, a second surface, and a pore, said defect having a defect bubble point pressure different from a pore bubble point pressure of said pore, the method comprising:

filling said pore and said defect with a liquid;

applying a differential pressure across said material web so as to remove said liquid from one of said pore and said defect, said differential pressure being between said defect bubble point pressure and said pore bubble point pressure;

capturing an image of said material web after said differential pressure has been applied, and

identifying said defect based on said image.

Claim 2 (Original): The method according to claim 1, wherein applying said differential pressure across said material web includes applying a vacuum pressure to said first surface of said material web.

Claim 3 (Original): The method according to claim 2, wherein applying vacuum pressure includes placing said material web in contact with a vacuum roller.

Claim 4 (Original): The method according to claim 1, wherein applying said differential pressure across said material web includes applying a gaseous pressure to said first surface of said material web.

Claim 5 (Original): The method according to claim 1, wherein said defect bubble point pressure is lower than said pore bubble point pressure and said liquid is removed from said defect.

Claim 6 (Original): The method according to claim 1, further including placing a mark on said material web.

Claim 7 (Original): The method according to claim 6, wherein said mark is placed over said defect.

Claim 8 (Original): The method according to claim 6, wherein said mark is placed near an edge of said material web.

Claim 9 (Original): The method according to claim 1, wherein identifying said defect includes comparing said image to a known image.

Claim 10 (Original): The method according to claim 1, wherein identifying said defect includes characterizing said image as a plurality of pixels.

Claim 11 (Original): The method according to claim 1, wherein removing said liquid from said one of said pore and said defect changes the temperature of a portion of said material web and further wherein said image is a thermal image of said material web.

Claim 12 (Original): The method according to claim 11, wherein identifying said defect includes characterizing said image as a plurality of pixels and assigning each of said pixels a numerical value based on a portion of said image corresponding to said pixel.

Claim 13 (Original): The method according to claim 11, wherein said second surface of said material web is in contact with a gas, wherein said gas is of a different temperature than said liquid, and wherein removing said liquid from said one of said pore and said defect includes drawing said gas into said one of said pore and said defect.

Claim 14 (Original): The method according to claim 1, further including calculating a current location of said defect based on information related to the velocity of said material web.

Claim 15 (Original): The method according to claim 1, further including applying a second differential pressure across said material web and capturing a second image of said material web after said second differential pressure has been applied.

Claim 16 (Original): A method for detecting a defect in a continuous material web having a pore and a defect, said method comprising:

filling said pore and said defect with a liquid;

placing a portion of said continuous material web in contact with a differential pressure source;

applying vacuum pressure to said continuous material web to create a differential pressure across said portion of said continuous material web, said differential pressure being

higher than the bubble point pressure for said defect and lower than the bubble point pressure

for said pore;

capturing an image of said portion of said continuous material web after said

differential pressure has been applied; and

identifying said defect based on said image.

Claim 17 (Currently Amended): A system for detecting a defect in a material web,

said material web having a first surface, a second surface, and a pore, said defect having a

defect bubble point pressure different that a pore bubble point pressure of said pore, said

system comprising:

a differential pressure source in contact with said first surface of said material web

configured to apply a differential pressure across said material web, said;

a liquid contained within said pore and said defect;

a camera configured to capture an image of a portion of said material web after said

differential pressure has been applied across said material web; and

a processor configured to determine the location of said defect based on said image,

wherein said differential pressure is between said defect bubble point pressure and

said pore bubble point pressure such that, when said differential pressure is applied across

said material web, said liquid is removed from one of said pore and said defect.

Claim 18 (Original): The system according to claim 17, wherein said processor is

configured to receive data related to said image and to identify a portion of said image

corresponding to said defect based on said data.

Claim 19 (Original): The system according to claim 17, wherein said processor includes logic for determining a current location of said defect on said material web based on data related to a location within said image of a portion of said image showing said defect and data related to at least one of a speed and a direction of travel of said material web.

Claim 20 (Original): The system according to claim 19, further including a post-processing device configured to receive data related to the current location of said defect from said processor and further configured to mark the current location of said device on said material web.

Claim 21 (Original): The system according to claim 20, wherein said post-processing device is configured so that it may be moved into contact with the material web.

Claim 22 (Original): The system according to claim 17, wherein said camera captures a thermal image of said portion of said material web.

Claim 23 (Original): The system according to claim 22, wherein said camera is an infrared camera.

Claim 24 (Original): The system according to claim 22, wherein a gas of a different temperature than said liquid is drawn into said one of said pore and said defect and said drawing said gas into said one of said pore and said defect changes the temperature of a portion of said material web surrounding said one of said pore and said defect.

Claim 25 (Original): The system according to claim 17, wherein said camera captures a photographic image of said portion of said material web.

Claim 26 (Original): The system according to claim 25, wherein said photographic image is a color photographic image.

Claim 27 (Original): The system according to claim 17, further including a first roller.

Claim 28 (Original): The system according to claim 27, wherein said first roller is configured such that said portion of said material web is submerged in said liquid when said portion of said material web is in contact with said first roller.

Claim 29 (Original): The system according to claim 27, further including a second roller.

Claim 30 (Original): The system according to claim 29, wherein at least one of said first roller and said second roller is driven.

Claim 31 (Original): .The system according to claim 17, wherein said differential pressure source is configured to apply a second differential pressure across said material web.

Claim 32 (Original): The system according to claim 31, wherein said camera is configured to capture a second image of said portion of said material web after said second differential pressure has been applied.

Claim 33 (Original): The system according to claim 17, wherein said differential pressure source is a vacuum roller having a vacuum pressure inlet, an interior vacuum chamber and a cylindrical element with an opening therethrough, and said system further including a vacuum pressure source connected to said vacuum pressure inlet.

Claim 34 (Original): The system according to claim 33, wherein said cylindrical element rotates through a rotational cycle, and said vacuum roller further includes a shield, said shield and said inner surface of said cylindrical member being configured so to substantially enclose said interior vacuum chamber.

Claim 35 (Original): The system according to claim 33, wherein said cylindrical element has a plurality of openings therethrough.

Claim 36 (Original): The system according to claim 17, wherein said differential pressure source applies pressurized gas to said first surface of said material web.

Claim 37 (Original): The system according to claim 36, wherein said differential pressure source changes the temperature of said pressurized gas prior to applying it to said first surface of said material web.

Claim 38 (Original): The system according to claim 17, wherein a bubble of gas encased in said liquid is produced on one of said first surface and said second surface of said material web at a location corresponding to said defect when said differential pressure is applied across said material web.

Claim 39 (Original): The system according to claim 38, wherein said image includes an image of said bubble and said processor is configured to compare data related to an image of said bubble with data related to a known image of a bubble.

Claim 40 (Original): The system according to claim 17, further including a liquid bath containing said liquid, wherein a portion of said material web is submerged in said liquid bath such that said liquid enters said pore and said defect.

Claim 41 (Original): A system for detecting a defect in a material web, said material web having a first surface, a second surface, and a pore, said defect having a defect bubble point pressure different than a pore bubble point pressure of said pore, said system comprising:

a vacuum roller in contact with said first surface of said material web, said vacuum roller configured to apply a differential pressure across said material web; a liquid bath containing a liquid, wherein a portion of said material web is submerged in said liquid bath such that said liquid enters said pore and said defect; and

a camera to capture a thermal image of a portion of said material web after said differential pressure has been applied across said material web; and

a processor to determine the location of said defect based on said image, wherein said differential pressure is between said defect bubble point pressure and said pore bubble point pressure such that, when said differential pressure is applied across said material web, said liquid is removed from one of said pore and said defect, and

the temperature of a portion of said material web proximate said defect changes when said liquid is removed from said defect.

Claim 42 (Original): A method for repairing a defect in a material web having a first surface, a second surface, and a pore, said defect having a defect bubble point pressure different from a pore bubble point pressure of said pore, the method comprising:

filling said pore and said defect with a liquid;

applying a differential pressure across said material web so as to remove said liquid from one of said pore and said defect, said differential pressure being between said defect bubble point pressure and said pore bubble point pressure;

capturing an image of said material web after said differential pressure has been applied;

identifying said defect based on said image;

calculating a current location of said defect;

transmitting data relating to said current location to a post-processing device; and

causing a post-processing device to effect a repair at said current location of said defect.

Claim 43 (Original): The method according to claim 42, further including determining at least one of the size and the shape of said defect, and transmitting data related to said at least one of said size and said shape to said post-processing device.

Claim 44 (Original): The method according to claim 42, wherein causing said post-processing device to effect a repair includes causing said post-processing device to move into contact with said material web.

Claim 45 (Original): The method according to claim 42, wherein said post-processing device is an adhesive dispenser, and wherein causing said post-processing device

to effect a repair includes causing said adhesive dispenser to dispense a bead of an adhesive

to cover at least a portion of said defect.

Claim 46 (Original): The method according to claim 42, wherein causing said post-

processing device to effect a repair includes causing said post-processing device to affix a

piece of a material to said material web to cover said defect.

Claim 47 (Original): The method according to claim 42, wherein causing said post-

processing device to effect a repair includes causing said post-processing device to heat a

portion of said material web proximate to said defect.

Claim 48 (Original): A system for repairing a defect in a material web, said material

web having a first surface, a second surface, and a pore, said defect having a defect bubble

point pressure different than a pore bubble point pressure of said pore, said system

comprising:

a differential pressure source in contact with said first surface of said material web,

said differential pressure source configured to apply a differential pressure across said

material web;

a liquid bath containing a liquid, wherein a portion of said material web is submerged

in said liquid bath such that said liquid enters said pore and said defect; and a camera to

capture an image of a portion of said material web after said differential pressure has been

applied across said material web; and

a processor to determine a location of said defect based on said image; and

a post-processing device to receive data related to the location of said defect and to

effect a repair; wherein

said differential pressure is between said defect bubble point pressure and said pore

bubble point pressure such that when said differential pressure is applied across said material

web, said liquid is removed from one of said pore and said defect.

Claim 49 (Original): The method according to claim 48, wherein said processor is

further configured to determine at least one of the size and the shape of said defect, and to

transmit data related to said at least one of said size and said shape to said post-processing

device.

Claim 50 (Original): The method according to claim 48, wherein said post-

processing device is configured to move into contact with said material web when effecting a

repair.

Claim 51 (Original): The method according to claim 48, wherein said post-

processing device is an adhesive dispenser, configured to dispense a bead of an adhesive to

cover at least a portion of said defect.

Claim 52 (Original): The method according to claim 48, wherein said post-

processing is configured to affix a piece of a material to said material web to cover said

defect.

Claim 53 (Original): The method according to claim 48, wherein said post-

processing device is configured to heat a portion of said material web proximate to said

defect.

Claim 54 (Original): A method for detecting a defect in a material web having a first surface and a second surface, said defect having a defect bubble point pressure, the method comprising:

filling said defect with a liquid;

applying a differential pressure across said material web so as to remove said liquid from said defect, said differential pressure exceeding said defect bubble point pressure;

capturing an image of said material web after said differential pressure has been applied, and

identifying said defect based on said image.

Claim 55 (Original): The method according to claim 54, wherein applying said differential pressure across said material web includes applying a vacuum pressure to said first surface of said material web.

Claim 56 (Original): The method according to claim 55, wherein applying vacuum pressure includes placing said material web in contact with a vacuum roller.

Claim 57 (Original): The method according to claim 54, wherein applying said differential pressure across said material web includes applying a gaseous pressure to said first surface of said material web.

Claim 58 (Original): The method according to claim 54, further including placing a mark on said material web.

Claim 59 (Original): The method according to claim 58, wherein said mark is placed over said defect.

Claim 60 (Original): The method according to claim 58, wherein said mark is placed near an edge of said material web.

Claim 61 (Original): The method according to claim 54, wherein identifying said defect includes comparing said image to a known image.

Claim 62 (Original): The method according to claim 54, wherein identifying said defect includes characterizing said image as a plurality of pixels.

Claim 63 (Original): The method according to claim 54, wherein removing said liquid from said one of said pore and said defect changes the temperature of a portion of said material web and further wherein said image is a thermal image of said material web.

Claim 64 (Original): The method according to claim 63, wherein identifying said defect includes characterizing said image as a plurality of pixels and assigning each of said pixels a numerical value based on a portion of said image corresponding to said pixel.

Claim 65 (Original): The method according to claim 63, wherein said second surface of said material web is in contact with a gas, wherein said gas is of a different temperature than said liquid, and wherein removing said liquid from said one of said pore and said defect includes drawing said gas into said one of said pore and said defect.

Claim 66 (Original): The method according to claim 54, further including

calculating a current location of said defect based on information related to the

velocity of said material web.

Claim 67 (Original): The method according to claim 54, further including

applying a second differential pressure across said material web and capturing a

second image of said material web after said second differential pressure has been applied.

Claim 68 (Original): The method according to claim 54, wherein the material web is

one of a dense film, a non-woven mat and a porous membrane.

Claim 69 (Original): A system for detecting a defect in a material web, said material

web having a first surface and a second surface, said defect having a defect bubble point

pressure, said system comprising:

a differential pressure source in contact with said first surface of said material web

configured to apply a differential pressure across said material web, said;

a liquid contained within said defect;

a camera configured to capture an image of a portion of said material web after said

differential pressure has been applied across said material web; and

a processor configured to determine the location of said defect based on said image,

wherein

said differential pressure exceeds said defect bubble point pressure such that, when

said differential pressure is applied across said material web, said liquid is removed from said

defect.

Claim 70 (Original): The system according to claim 69, wherein said processor is configured to receive data related to said image and to identify a portion of said image corresponding to said defect based on said data.

Claim 71 (Original): The system according to claim 69, wherein said processor includes logic for determining a current location of said defect on said material web based on data related to a location within said image of a portion of said image showing said defect and data related to at least one of a speed and a direction of travel of said material web.

Claim 72 (Original): The system according to claim 71, further including a post-processing device configured to receive data related to the current location of said defect from said processor and further configured to mark the current location of said device on said material web.

Claim 73 (Original): The system according to claim 72, wherein said post-processing device is configured so that it may be moved into contact with the material web.

Claim 74 (Original): The system according to claim 69, wherein said camera captures a thermal image of said portion of said material web.

Claim 75 (Original): The system according to claim 74, wherein said camera is an infrared camera.

Claim 76 (Original): The system according to claim 74, wherein a gas of a different temperature than said liquid is drawn into said one of said pore and said defect and said

drawing said gas into said one of said pore and said defect changes the temperature of a

portion of said material web surrounding said one of said pore and said defect.

Claim 77 (Original): The system according to claim 69, wherein said camera

captures a photographic image of said portion of said material web.

Claim 78 (Original): The system according to claim 77, wherein said photographic

image is a color photographic image.

Claim 79 (Original): The system according to claim 69, further including a first

roller.

Claim 80 (Original): The system according to claim 79, wherein said first roller is

configured such that said portion of said material web is submerged in said liquid when said

portion of said material web is in contact with said first roller.

Claim 81 (Original): The system according to claim 79, further including a second

roller.

Claim 82 (Original): The system according to claim 81, wherein at least one of said

first roller and said second roller is driven.

Claim 83 (Original): The system according to claim 69, wherein said differential

pressure source is configured to apply a second differential pressure across said material web.

Claim 84 (Original): The system according to claim 83, wherein said camera is configured to capture a second image of said portion of said material web after said second differential pressure has been applied.

Claim 85 (Original): The system according to claim 69, wherein said differential pressure source is a vacuum roller having a vacuum pressure inlet, an interior vacuum chamber and a cylindrical element with an opening therethrough, and said system further including a vacuum pressure source connected to said vacuum pressure inlet.

Claim 86 (Original): The system according to claim 85, wherein said cylindrical element rotates through a rotational cycle, and said vacuum roller further includes a shield, said shield and said inner surface of said cylindrical member being configured so to substantially enclose said interior vacuum chamber.

Claim 87 (Original): The system according to claim 85, wherein said cylindrical element has a plurality of openings therethrough.

Claim 88 (Original): The system according to claim 69, wherein said differential pressure source applies pressurized gas to said first surface of said material web.

Claim 89 (Original): The system according to claim 88, wherein said differential pressure source changes the temperature of said pressurized gas prior to applying it to said first surface of said material web.

Claim 90 (Original): The system according to claim 69, wherein a bubble of gas encased in said liquid is produced on one of said first surface and said second surface of said material web at a location corresponding to said defect when said differential pressure is applied across said material web.

Claim 91 (Original): The system according to claim 90, wherein said image includes an image of said bubble and said processor is configured to compare data related to an image of said bubble with data related to a known image of a bubble.

Claim 92 (Original): The system according to claim 69, further including a liquid bath containing said liquid, wherein a portion of said material web is submerged in said liquid bath such that said liquid enters said pore and said defect.

Claim 93 (Original): A method for repairing a defect in a material web having a first surface and a second surface, said defect having a defect bubble point pressure, the method comprising:

filling said defect with a liquid;

applying a differential pressure across said material web so as to remove said liquid from said defect, said differential pressure exceeding said defect bubble point pressure;

capturing an image of said material web after said differential pressure has been applied,

identifying said defect based on said image; calculating a current location of said defect;

transmitting data relating to said current location to a post-processing device; and

causing a post-processing device to effect a repair at said current location of said

defect.

Claim 94 (Original): The method according to claim 93, further including

determining at least one of the size and the shape of said defect, and transmitting data

related to said at least one of said size and said shape to said post-processing device.

Claim 95 (Original): The method according to claim 93, wherein causing said post-

processing device to effect a repair includes causing said post-processing device to move into

contact with said material web.

Claim 96 (Original): The method according to claim 93, wherein said post-

processing device is an adhesive dispenser, and wherein causing said post-processing device

to effect a repair includes causing said adhesive dispenser to dispense a bead of an adhesive

to cover at least a portion of said defect.

Claim 97 (Original): The method according to claim 93, wherein causing said post-

processing device to effect a repair includes causing said post-processing device to affix a

piece of a material to said material web to cover said defect.

Claim 98 (Original): The method according to claim 93, wherein causing said post-

processing device to effect a repair includes causing said post-processing device to heat a

portion of said material web proximate to said defect.

Claim 99 (Original): A system for repairing a defect in a material web, said material web having a first surface and a second surface, said defect having a defect bubble point pressure, said system comprising:

a differential pressure source in contact with said first surface of said material web, said differential pressure source configured to apply a differential pressure across said material web;

a liquid bath containing a liquid, wherein a portion of said material web is submerged in said liquid bath such that said liquid enters said defect; and

a camera to capture an image of a portion of said material web after said differential pressure has been applied across said material web; and

a processor to determine a location of said defect based on said image; and

a post-processing device to receive data related to the location of said defect and to effect a repair; wherein

said differential pressure exceeds said defect bubble point pressure such that when said differential pressure is applied across said material web, said liquid is removed from one of said defect.

Claim 100 (Currently Amended): The ~~method~~ system according to claim 99, wherein said processor is further configured to determine at least one of the size and the shape of said defect, and to transmit data related to said at least one of said size and said shape to said post-processing device.

Claim 101 (Currently Amended): The ~~method~~ system according to claim 99, wherein said post-processing device is configured to move into contact with said material web when effecting a repair.

Claim 102 (Currently Amended): The ~~method~~ system according to claim 99, wherein said post-processing device is an adhesive dispenser, configured to dispense a bead of an adhesive to cover at least a portion of said defect.

Claim 103 (Currently Amended): The ~~method~~ system according to claim 99, wherein said post-processing is configured to affix a piece of a material to said material web to cover said defect.

Claim 104 (Currently Amended): The ~~method~~ system according to claim 99, wherein said post-processing device is configured to heat a portion of said material web proximate to said defect.

Claim 105 (New): The method according to claim 1, wherein the method is carried out continuously on a flat material web.

Claim 106 (New): The method according to claim 16, wherein the method is carried out continuously on a flat material web.

Claim 107 (New): The system according to claim 17, wherein the material web is a flat, continuous material web.

Claim 108 (New): The system according to claim 41, wherein the material web is a flat, continuous material web.

Claim 109 (New): The method according to claim 42, wherein the method is carried out continuously on a flat material web.

Claim 110 (New): The system according to claim 48, wherein the material web is a flat, continuous material web.

Claim 111 (New): The method according to claim 54, wherein the method is carried out continuously on a flat material web.

Claim 112 (New): The system according to claim 69, wherein the material web is a flat, continuous material web.

Claim 113 (New): The method according to claim 93, wherein the method is carried out continuously on a flat material web.

Claim 114 (New): The system according to claim 99, wherein the material web is a flat, continuous material web.